

QUALIFIED PRODUCTS LIST

The materials in this section may be accepted for use on Michigan Department of Transportation projects based on the trade name, model number, etc., as listed.

This Qualified Products List is in accordance with the 2012 Standard Specifications for Construction.

Also see Section 6.01 of the MQAP Manual.

QUALIFIED PRODUCTS LIST (QPL)

Spec. # and Material Name	Product Name	Manufacturers or Suppliers
502.02B Overband Crackfill, Asphalt Rubber	Alt. 2 K-T 1190 AR Plus Type 2 102CR-18B Asphalt Rubber Modified, JTS-043 ColJoint ARS II	Bit-Mat Products Crafcro, Inc. Deery American Corp. (by Crafcro) Right Pointe Colas Solutions
603.03B2 Adhesive Systems for Grouting Dowel Bars and Tie Bars for Full-Depth Concrete Pavement Repairs NOTE: Use these Qualified Products for grouting repairs to existing concrete in the same direction of traffic in the same lane of repair. For grouting lane ties (deformed bars positioned transverse to the direction of traffic located between traffic lanes) use QPL 712.03J, "Adhesive Systems for Structural Anchors and Lane Ties".	Ultrabond 1, 2, 3 Ultrabond 365 UltraBond HS-200 Ultrabond RT66 Ultrabond Speed Set 2 Inject-Tite Standard Set Inject-Tite Fast Set Aka Bond Aka Bond 550XP Aka Bond 550XPP Sonneborn Rapid Gel BHS-1250 BHS-1250XP Araldite AW / HW 8561 Spec Bond 201 Highway Fast Set Epoxy TRU Grip HI-Modepoxy 590 Tru-Grip 591 Dural Fast Set Epoxy Gel Futura Bond 566 Hilti RSE DOT Epcon A7 Epcon-Ceramic 6 SurePox 117 Kelipox II Dynapox EP-430 FAST Poly-Carb Mark 198.4 Polyject/Polybac 1257 Polyject/Polybac 1295 AC 50 Silver AC 100+ Gold PE 1000+ Pure 50+ Pure 110+ T308+ Speed Bond #1 Sikadur Injection Gel Sikadur 881 DBA Sikadur DOT-SP13 Arcylic -Tie AT Epoxy Tie Dowel Bar Adhesive #5 Pro Pox 300 Pro Pox 300 FAST CIA Gel 7000 Rezi-Weld Gel Paste Rezi-Weld Gel Paste State	Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. Adhesives Technology Corp. ANKR-Tite Fastening Systems ANKR-Tite Fastening Systems Axson North America (Formerly Akemi Plastics) Axson North America (Formerly Akemi Plastics) Axson North America (Formerly Akemi Plastics) BASF Construction Chemical Blackhawk Sales Company, Inc. Blackhawk Sales Company, Inc. Ciba Specialty Chemicals Corp. Conspec by Dayton Superior, Inc. Dayton Superior Corp. J. Dedoes, Inc. J. Dedoes, Inc. Euclid Chemical Company Futura Adhesives & Chemicals Hilti, Inc. ITW Ramset/Red Head ITW Ramset/Red Head Kaufman Products Kelken Construction Systems Pecora Corporation Poly-Carb, Inc. Poly-Carb, Inc. Polygen, Inc. Polygen, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Powers Fasteners, Inc. Prime Resins, Inc. Sika Corporation Sika Corporation Sika Corporation Simpson Strong-Tie Company, Inc. Simpson Strong-Tie Company, Inc. Superior Epoxies & Coatings Unitex Unitex USP Structural Connectors W.R. Meadows, Inc. W.R. Meadows, Inc.

QUALIFIED PRODUCTS LIST (QPL)

Spec. # and Material Name	Product Name	Manufacturers or Suppliers
702.02B Non-Shrinking Mortar and Grout Type H-1(Non-Metallic) Pre Mixed H-2 eliminated.	MBT 928 Grout MBT Construction Grout Set Grout Boomer Premium Grout Upcon Super Flow Grout Celtite 10-50 Hi-Flow Conspec 100 Enduro 50 Grout Gifford-Hills Supreme Grout 1107 Advantage Grout Sure Grip Grout NS Grout Five Star Grout Pro-Grout 90 SureGrout Crystex Duragrout Quikrete Precision Grout SC Multipurpose Grout Superb Grout 611 Sealite 588 Grout	BASF Construction Chemical, Shakopee, MN BASF Construction Chemical, Shakopee, MN BASF Construction Chemical, Shakopee, MN Boomer Construction Materials, Detroit, MI Bostik Const. Prod. Co., Cleveland, OH Celtite Inc., Georgetown, KY Conspec by Dayton Superior, Kansas City, KS Conspec by Dayton Superior, Kansas City, KS Cormix, Inc., Cleveland, OH (form. Gifford-Hill) Dayton Superior, Kansas City, KS Dayton Superior, Kansas City, KS Euclid Chemical Co., Cleveland, OH Five Star Products, Inc. G.C.M., Inc., Bensalem, PA Kaufman Products, Inc., Baltimore, MD L&M Construction Chemicals, Inc., Omaha, NE L&M Construction Chemicals, Inc., Omaha, NE Quikrete Technical Center, Atlanta, GA SpecChem Specco Industries, Lemont, IL W. R. Meadows, Inc., Elgin, IL
703 Prepackaged Hydraulic Fast Set* Mortar NOTE: *Percentage based upon weight of prepackaged bag containing both cement and sand. Example Calculation: 50 lb bag approved at 60% extension = 50 x 0.60 = 30 lb coarse aggregate per bag.	<div style="text-align: right; margin-bottom: 5px;">Max. Aggregate Extension, %</div> Emaco 10-60 Rapid Mortar 60* Emaco Set 45 60* Burke Fast Patch 928 50* Chem Speed 65 50* HD-50 Heavy Duty Concrete Patch 60* Express Repair 60* Five Star Highway Patch 60* Durapatch Hiway 50* Planitop 18 60* Commercial Grade Fast Set 45.5* DOT Mix	BASF Construction Chemical BASF Construction Chemical Edoco, a Dayton Superior Co., Kansas City, KS Chem Masters Dayton Superior Corp. Euclid Chemical Co. Five Star Products, Inc. L&M Construction Chemicals, Inc. Mapei Corporation Quikrete
706.03S Protective Coating for Concrete (Penetrating Water Repellent Treatment of Structure Concrete Surfaces)	<div style="text-align: right; margin-bottom: 5px;">Application Rate, sq ft/gal</div> Hydrozo Enviroseal 20 125-200 Hydrozo Enviroseal 40 125-200 Barracade Silane 125 Aquapel Plus 20% Silane 125 Stifel S 125 Powerseal 40 125-200	BASF Construction Chemical BASF Construction Chemical Euclid Chemical Co. L&M Construction Chemicals, Inc. Nox-Crete Chemicals Vexcon Chemicals
707.02 Bushings for Pins & Link Plates	CJ Garmax	TriStar Garlock

QUALIFIED PRODUCTS LIST (QPL)			
Spec. # and Material Name	Product Name		Manufacturers or Suppliers
712.03J Adhesive Systems for Structural Anchor & Lane Ties* NOTE: *Lane Ties defined as deformed bars positioned transverse to the direction of traffic located between lanes. For grouting dowel bars and tie bars (bars positioned to existing concrete in the direction of the traffic in the same lane as the repair) use QPL 603.03B2, "Adhesive Systems for Grouting Dowel Bars for Full-Depth Concrete Pavement Repairs". Note 1. Anchors shall be installed per manufacturer's recommendations with a minimum embedment depth of 12 diameters for reinforcing steel and 9 diameters for threaded bolts. Note 2. Material is limited to the shelf life recommendations by the manufacturer.	Name	Adhesive Type	Mixing & Inject.
	Ultrabond 1	Epoxy	Yes
	HS-200	Epoxy	Yes
	Tru-Grip 591	Epoxy	Yes
	HY-150 MAX	Epoxy	Yes
	RE 500	Epoxy	Yes
	Hilti HTE 50	Epoxy	Capsule
	Hilti HIT-HY 200-A	Urethane-	Yes
		Methacrylate	
	Hilti HIT-HY 200-R	Methacrylate	Yes
	HVU	Urethane-	Capsule
		Methacrylate	
	Ceramic 6	Epoxy	Yes
	Epcon Acrylic 7	Methacrylate	Yes
	Super Por-Rok	Non-Shrink Grout	Yes
	AC100 Plus	Epoxy	Yes
	Acrylic-Tie	Methacrylate	Yes
	EDOT	Epoxy	Yes
	Epoxy-Tie	Epoxy	Yes
	SET	Epoxy	Yes
712.03K Structure Expansion Anchors (Mechanical Expansion Anchors) Pull-out Testing is required per MQAP Manual Section 4.03. NOTE: Mechanical Expansion Anchors shall be set by applying the manufacturer's specified torque. The turn of the nut method will not be an acceptable alternative.	1. Pre-Drilled Flush Type		
	a) Hilti HDI (3/8" (10mm), 1/2" (13mm), 3/4" (19mm), dia. anchors only)		
712.03L Mechanical Reinforcement Splicing NOTE: Splices used to connect precast structural elements shall be high strength splices.	2. Pre-Drilled Stud Type - Not suitable for lane ties or for guardrail end shoes because of exposed thread.		
	a) Hilti Kwik-Bolt II or Kwik-Bolt III		
712.03Y Embedded Galvanic Anodes	3/8" (10mm) dia. anchor - min. embedment = 2 1/2" (65mm)		
	1/2" (13mm) dia. anchor - min. embedment = 3 1/2" (90mm)		
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	5/8" (16mm) dia. anchor - min. embedment = 4" (100mm)		
712.03L Mechanical Reinforcement Splicing NOTE: Splices used to connect precast structural elements shall be high strength splices.	BPI Barsplicer System		BarSplice Products, Inc., Dayton, OH
	Grip-Twist Threaded Position Coupler		BarSplice Products, Inc., Dayton, OH
712.03Y Embedded Galvanic Anodes	Taper Threaded Grip-Twist		BarSplice Products, Inc., Dayton, OH
	Zap Screwlok		BarSplice Products, Inc., Dayton, OH
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	Bar-Lock L-Series		Dayton Superior Corp., Miamisburg, OH
	DB SAE		Dayton Superior Corp., Miamisburg, OH
712.03Y Embedded Galvanic Anodes	Lenton		ERICO International Corporation, Solon, OH
	Lenton Form Saver		ERICO International Corporation, Solon, OH
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	Lenton Interlok (High Strength)		ERICO International Corporation, Solon, OH
	Lenton Position Coupler		ERICO International Corporation, Solon, OH
712.03Y Embedded Galvanic Anodes	NMB Splice Sleeve (High Strength)		Splice Sleeve North America, Inc., Livonia, MI
712.03Y Embedded Galvanic Anodes	EMACO CP Intact, Model #'s: 65G, 105G, 150G		BASF Chemical Company
	Sentinel-GL		Euclid Chemical Co.
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	Sika Galvashield XP		Sika Corporation
	Sika Galvashield XP+		Sika Corporation
712.03Y Embedded Galvanic Anodes	Galvashield XP		Vector Corrosion Technologies
	Galvashield XP+		Vector Corrosion Technologies
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	Sonolastic NP 1		BASF Construction Chemicals, Shakopee, MN
	Bostik 2020		Bostik US
712.03Y Embedded Galvanic Anodes	Duralink (F1200)		Chem Link
	Sherwin Williams Stampede 1		Sherwin-Williams
713.02B Sealant for Perimeter of Beam Repairs NOTE: No silicone materials - only polyurethane (PU) or PU blended materials that are paintable. Typically 1 week cure prior to painting. All non-sag material.	Sikaflex-15LM		Sika Corporation
	Vulkem 116		Tremco, Inc.
712.03Y Embedded Galvanic Anodes	XtraBond 9500		Premier Industrial Supply

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Spec. # and Material Name	Product Name	Manufacturers or Suppliers
715.02 Coating Systems for New Hanger Assemblies	See Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms QPL 915	
715.02 Abrasive, Low Dusting NOTE: The blasting profile produced by these abrasives will depend on the equipment used. It is the responsibility of the contractor to produce a profile within the 1.0 to 2.8 mils specified range. The abrasive additive, Blastox may be used with any of the listed low-dusting abrasives.	Black Diamond Abrasive GMA Garnet Blast Black Shot Granulated Slag StarBlast XL Emerald Creek Garnet Blackjack MSM, Waupaca Materials Blast Away Superior Blast Ebony Grit Black Beauty Norblast E-1015 M-1015	U.S. Minerals, Dyer, IN GMA Garnet Pty Ltd, Narngulu, WA, Australia Bell & MacKenzie Co. Ltd, Hamilton, Ontario Dupont, Wilmington, DE Emerald Creek Garnet, Fernwood, ID Faulks Brothers Constr. Co., Inc., Waupaca, WI Gibbco, Inc. Lesktech Limited Opta Minerals Inc. Reed Minerals Division, Highland, IN Transtech Inc., Covington, KY Universal Ground Cullets, Inc., Brook Park, OH Universal Ground Cullets, Inc., Brook Park, OH
803.02B Detectable Warning Surfaces (ADA Compliant Sidewalk Ramps), 1. Cast-in-Place 2. Surface Applied* *NOTE: Surface applied detectable warning surfaces may only be used to retrofit existing concrete	Access Tile Cast In Place Replaceable AlertCast Cast in Place Truncated Dome Warning System Composite Wet Set Replaceable, Rectangular and Radius DetecTile Replaceable Tactile Panel EJIW Detectable Warning Plate Armor-Tile Cast in Place Stainless Armor-Tile Cast in Place Composite NF Detectable Warning Plate TufTile Surface Applied Panel System with Beveled Edges Alerttile Armor-Tile Surface Applied Composite Warning System TopMark	Access Products, Inc., Buffalo, NY AlertTiles, Wilmington, NC ADA Solutions, North Billerica, MA ADA Solutions, North Billerica, MA DetecTile Corporation East Jordan Iron Works, East Jordan, MI Engineered Plastics, Inc., Williamsville, NY Engineered Plastics, Inc., Williamsville, NY Neenah Foundry Company, Neenah, WI TufTile ADA Solutions, North Billerica, MA Detectable Warning Systems, Wilmington, NC Engineered Plastics, Inc., Williamsville, NY Ennis-Flint
811.03D1 Waterborne, Liquid Pavement Marking Material	<u>White</u> BP-5760 TM-2204 982211 982221 982201	<u>Lead Free Yellow</u> P8479 TM-2205 982212 982222 982202
811.03D2 Low Temperature Waterborne, Liquid Pavement Marking Material	<u>White</u> 985251 TM2372	<u>Lead Free Yellow</u> 985252 TM2373
811.03D3 Regular Dry Paint, Liquid Pavement Marking Materials	<u>White</u> TM-5604 982271	<u>Lead Free Yellow</u> TM-5607 982282

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Spec. # and Material Name	Product Name	Manufacturers or Suppliers
811.03D4 Cold Plastic Tape, Permanent (Long Line, Legends & Crosswalks) *AW Tape is all-weather	Cold Plastic Tape (Preformed Long Line): <u>White</u> <u>Yellow</u> <u>Adhesive</u> 380 381 P50 *380 AW *381 AW P50 Director 60 Director 60 DP-E4 Director 60 HPT Director 60 HPT DP-E4 Cold Plastic Tape (Preformed Legends & Symbols): <u>White</u> <u>Yellow</u> <u>Adhesive</u> 270 ES 271 ES P50 380 ES 381 ES P50 ATM 300 ATM Permanent Primer Director 60 DP-E4 Director 60 HPT DP-E4 Cold Plastic Tape (Preformed Crosswalks & Stop Bars): <u>White</u> <u>Adhesive</u> 380 P50 270 ES P50 380 ES P50 ATM 300 ATM Permanent Primer Director 60 DP-E4 Director 60 HPT DP-E4	3M 3M Swarco Swarco 3M 3M Advanced Traffic Markings Swarco Swarco Advanced Traffic Markings Swarco Swarco
811.03D5 Thermoplastic, Liquid Pavement Marking Material	<u>White</u> <u>Yellow</u> 884285 884685 Swarcotherm EWH 131 Swarcotherm EYH 132 Viatherm E413W	Ennis-Flint Swarco Cleansol
811.03D5 Thermoplastic, Blocks Rumble Strips & Snowmobile Crossings	E411W (Block) Rumble Strip E4190 (Block) White Darkened to Gray Snowmobile Crossing	Cleansol Cleansol E-4
811.03D6 Thermoplastic, Sprayable, Liquid Pavement Marking Material	<u>White Alkyd</u> <u>Yellow Alkyd</u> 01-WAK-BADA 01-YAK-AADA 01-WHK-BADA 01-YHK-AADA W1SS7056 Y1SS7006 W2SS7056 Y2SS7006 884822 883241 884824 883240 1157MWHSI 2798MYHSI 3023MWASI 3021MYHSI	Crown Technology Crown Technology Dobco-Sherwin Williams Dobco-Sherwin Williams Ennis-Flint Ennis-Flint Swarco Swarco
811.03D7 Polyurea, Liquid Pavement Marking Materials	5000 LPM White Long Lines Special Mrkg. 5001 LPM Yellow Long Lines Special Mrkg. LS90 White and Yellow Long Lines LS90 White Special Markings HPS-5 White and Yellow	3M 3M Epo-Plex Epo-Plex IPS

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>BASF CONSTR. CHEM.</u>				
	MasterSet DELVO	D	Water-reducer retarder	3	195
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	MasterAir AE 400	AE	Air-entraining	1- 4	65 - 260
	MasterGlenium 3400	F	High-range water-reducer	3	195
	MasterGlenium 7500	A	Water-reducer	1.5	100
	MasterGlenium 7700	F	High-range water-reducer	3 - 15	195 - 978
903.04 Concrete Accelerators	MasterGlenium 7700	MR	Mid-range water-reducer	2 - 4	130 - 160
	MasterGlenium 7700	F	High-range water-reducer	4 - 15	160 - 980
	MasterGlenium 7710	F	High-range water-reducer	4	260
	MasterAir AE 90	AE	Air-entraining	1	65
	MasterAir VR 20	AE	Air-entraining (vinsol resin)	1	65
	MasterAir VR 10	AE	Air-entraining (vinsol resin)	1	65
	MasterAir AE 200	AE	Air-entraining	1	65
	MasterPolyheed 900	A	Water-reducer	4	260
	MasterPolyheed 900	MR	Mid-range water-reducer	7	455
	MasterPolyheed 997	A	Water-reducer	3	195
	MasterPolyheed 997	MR	Mid-range water-reducer	6	390
	MasterPolyheed 997	F	High-range water-reducer	10	650
	MasterPolyheed 1725	A	Water-reducer	2.5 - 4	165 - 260
	MasterPolyheed 1725	MR	Mid-range water-reducer	5.5 - 7	360 - 455
	MasterPolyheed 1725	F	High-range water-reducer	8 - 12	520 - 780
	MasterPolyheed 100	A	Water-reducer	4	260
	MasterPolyheed 100	MR	Mid-range water-reducer	8	520
	MasterPozzolith 200	A	Water-reducer	2	130
	MasterPozzolith 200	D	Water-reducer retarder	4	260
	MasterPozzolith 322	A	Water-reducer	3	195
	MasterPozzolith 322	D	Water-reducer retarder	5	325
	MasterPozzolith 700	A	Water-reducer	2	130
	MasterPozzolith 700	D	Water-reducer retarder	5	325
	MasterSet AC 534	C	Accelerator (non-chloride)	10	650
	MasterSet FP 20	C	Accelerator (non-chloride)	10	650
	PS 1481	MR	Mid-range water-reducer	3	195
	PS 1481	F	High-range water-reducer	6	390
	MasterGlenium 7511	A	Water-reducer	2 - 4	130 - 260
	MasterGlenium 7511	MR	Mid-range water-reducer	4 - 6	260 - 390
	MasterGlenium 7511	F	High-range water-reducer	6 - 15	390 - 980
	MasterRheobuild 1000	MR	Mid-range water-reducer	9	585
	MasterRheobuild 1000	F	High-range water-reducer	13	850
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QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures 903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete 903.04 Concrete Accelerators	<u>EUCLID CHEMICAL CO.</u>				
	Eucon AEA 92	AE	Air-entraining	1.5	100
	Accelguard 80	C	Accelerator (non-chloride)	18 - 32	1175 - 2085
	Accelguard NCA	C	Accelerator (non-chloride)	15	980
	Eucon Air Mix 200	AE	Air-entraining	3	195
	EUCON MR	A	Water-reducer	4.5	290
		MR	Mid-range water-reducer	5.5	360
		F	High-range water-reducer	12	780
	EUCON MRX	MR	Mid-range water-reducer	3.5	230
		F	High-range water-reducer	7.5	490
	EUCON WR-91	A	Water-reducer	3	195
		MR	Mid-range water-reducer	5	325
		D	Water-reducer retarder	6	390
	EUCON A+	A	Water-reducer	3.5	230
		MR	Mid-range water-reducer	4.5	290
	EUCON Retarder75	D	Water-reducer retarder	3.5	230
	EUCON SPC	F	High-range water-reducer	5 - 12	325 - 780
	EUCON AIR MAC12	AE	Air-entraining	1.5 - 4	100 - 260
	PLASTOL 341	F	High-range water-reducer	7.5	490
	PLASTOL 5500	F	High-range water-reducer	3	195
(Continued)					

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE Air Entraining - ASTM C 260; Chemical - ASTM C 494 (See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>GENERAL RESOURCE</u> <u>TECHNOLOGY (GRT)</u>				
	KB-1200	A	Water-reducer	3 - 5	195 - 325
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	Melchem	MR	Mid-range water-reducer	5 - 8	325 - 520
	Polychem VR	F	High-range water-reducer	8 - 20	520 - 1300
	Polychem AE	AE	Air-entraining (vinsol resin)	0.5	35
	Polychem AE	AE	Air-entraining	1	65
	Polychem SA	AE	Air-entraining	0.5	35
903.04 Concrete Accelerators	Polychem SA-50	AE	Air-entraining	1 - 3	65 - 195
	Polychem 400 NC	A	Water-reducer	3 - 5	195 - 325
	Polychem Super Set	C	Accelerator (non-chloride)	16 - 32	1045 - 2090
	Polychem R	D	Water-reducer retarder	3 - 5	195 - 325
	Polychem SPC	F	High-range water-reducer	5.5	360
(Continued)					

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>PREMIERE CONCRETE</u> <u>ADMIXTURES</u> EcoFlo Green	A	Water-reducer	1.5 - 3	100 - 195
		MR	Mid-range water-reducer	4.5 - 7.5	290 - 490
		F	High-range water-reducer	8 - 14	520 - 910
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	Optiflo 700	A	Water-reducer	4 - 5	260 - 325
		MR	Mid-range water-reducer	5 - 8	325 - 520
903.04 Concrete Accelerators	OptiFlo 50	A	Water-reducer	3	195
		MR	Mid-range water-reducer	5	325
	OptiFlo 500	D	Water-reducer retarder	6	390
		A	Water-reducer	2 - 3.5	130 - 230
	OptiFlo MR	D	Water-reducer retarder	3.5 - 5	230 - 325
		A	Water-reducer	3 - 5	195 - 325
		MR	Mid-range water-reducer	5 - 8	325 - 520
		F	High-range water-reducer	12 - 16	780 - 1045
	OptiFlo Plus	MR	Mid-range water-reducer	5 - 12	325 - 780
		E	Water-reducer accelerator (non-chloride)	12 - 90	780 - 5870
	OptiFlo 100R	D	Water-reducer retarder	3 - 5	195 - 325
	ConAir	AE	Air-entraining	0.5 - 4	35 - 260
	ConAir 260	AE	Air-entraining	0.5 - 4	35 - 260
	ConAir X	AE	Air-entraining	0.5 - 4	35 - 260
	UltraFlo 2000	A	Water-reducer	2 - 4	130 - 260
		MR	Mid-range water-reducer	4 - 6	260 - 390
		F	High-range water-reducer	6 - 12	390 - 780
	UltraFlo 4600	MR	Mid-range water-reducer	7 - 12	455 - 780
		F	High-range water-reducer	12 - 20	780 - 1300
	UltraFlo 5600	MR	Mid-range water-reducer	6 - 10	390 - 650
		F	High-range water-reducer	10 - 24	650 - 1565
	UltraFlo DP	F	High-range water-reducer	5 - 12	325 - 780
	NitroCast K	E	Water-reducer accelerator (non-chloride)	10 - 90	650 - 5870
	ProLong L	D	Water-reducer retarder	2.5 - 10	165 - 650
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ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>RUSSTECH</u> LC-400R	D	Water-reducer retarder	3.5 - 6	230 - 390
	RSA-10	AE	Air-entraining	1	65
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	Superflo 2000 RM	F	High-range water-reducer	8 - 20	520 - 1300
903.04 Concrete Accelerators					
(Continued)					

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ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>SIKA CORP.</u>				
	MultiAir 25	AE	Air-entraining	1	65
	Plastiment ES	D	Water-reducer retarder	2 - 4	130 - 260
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	Plastocrete 10N	A	Water-reducer	2	130
		D	Water-reducer retarder	3.5	230
	Plastocrete 161	A	Water-reducer	3	195
		D	Water-reducer retarder	6	390
903.04 Concrete Accelerators	Sika AEA-14	AE	Air-entraining	2	130
	Sika AIR 260	AE	Air-entraining	2	130
	Sika AIR 360	AE	Air-entraining	1	65
	Sika AER-C	AE	Air-entraining	1 - 5	65 - 325
	Sikament AFM	A	Water-reducer	2	130
		MR	Mid-range water-reducer	6	390
		F	High-range water-reducer	11	720
	Sikament SPMN	MR	Mid-range water-reducer	6.5	425
		F	High-range water-reducer	10	650
	Sikament 686	A	Water-reducer	3	195
		MR	Mid-range water-reducer	5.5	360
		F	High-range water-reducer	8	520
	SikaPlast 200	A	Water-reducer	3 - 8	195 - 520
		MR	Mid-range water-reducer	8	520
	SikaPlast 500	A	Water-reducer	3 - 5	195 - 325
		MR	Mid-range water-reducer	5 - 7	325 - 455
	SikaSet NC	C	Accelerator (non-chloride)	10	650
	Sikatard 440	D	Water-reducer retarder	3	195
	Sikatard 440	D	Water-reducer retarder	3	195
	Rapid - 1	C	Accelerator (non-chloride)	20	1300
	ViscoCrete 1000	A	Water-reducer	1.5	100
		MR	Mid-range water-reducer	3	195
		F	High-range water-reducer	8	520
	ViscoCrete 2100	F	High-range water-reducer	5	325
	ViscoCrete 4100	F	High-range water-reducer	5	325
	ViscoCrete 6100	F	High-range water-reducer	5	325
(Continued)					

QUALIFIED PRODUCTS LIST (QPL)

ADMIXTURES FOR CONCRETE
Air Entraining - ASTM C 260; Chemical - ASTM C 494
(See Notes Following Listing of Admixtures)

Spec. # and Material Name	Manufacturer or Supplier and Trade Name	Type	Producer and Description	Dosage min. or range fl oz/cwt	Dosage min. or range ml/100kg
903.01 Air Entraining Admixtures	<u>W.R. GRACE & COMPANY</u>				
	ADVA 405	F	High-range water-reducer	11 - 18	720 - 1175
	ADVA Cast 575	F	High-range water-reducer	3.5 - 10	230 - 650
903.02 Water Reducing and Water Reducing Retarding Admixtures for Concrete	Daracem 19	F	High-range water-reducer	12.5	815
	Daracem 65	A	Water-reducer	4	260
		MR	Mid-range water-reducer	6 - 9	390 - 585
	Daraset 400	C	Accelerator (non-chloride)	15	980
	Daratard 17	D	Water-reducer retarder	2	130
903.04 Concrete Accelerators	Daravair 1400	AE	Air-entraining	1	65
	Mira 62	A	Water-reducer	4.5	290
		MR	Mid-range water-reducer	6 - 12	390 - 780
		F	High-range water-reducer	12 - 15	780 - 980
	Mira 110	MR	Mid-range water-reducer	9 - 12	585 - 780
		F	High-range water-reducer	12 - 15	780 - 980
	Polarset	C	Accelerator (non-chloride)	8	520
	Terapave AEA	AE	Air-entraining	1.5	100
	WRDA 82	A	Water-reducer	3	195

SPEC. 903 ADMIXTURE NOTES:

1. Dosage Rate

The dosage rate shown is the minimum quantity permitted according to the Qualified Products List. The dosage indicated is that recommended by the producer or that used in qualification tests for approval of the admixture. There is no assurance that the desired water-reduction and/or retardation will be achieved with these dosages with a particular cement being used, as the effect is dependent on the cement chemistry, concrete temperature, and other factors. Increasing the dosage appreciably above that recommended may result in abnormal behavior of the concrete, such as extremely long or very short setting times. Reducing the dosage below that recommended may have the effect of substantially no change from concrete without the admixture. The dosage shown for retarding admixtures will normally produce a 1- to 3-hour retardation in the setting of the concrete, compared to similar concrete without the admixture, when used at normal temperatures (approximately 21 C). Increased dosage, within reasonable limits, will usually increase the retardation. Use of a retarding admixture will not slow the stiffening of concrete due to loss of slump.

2. Air-Entraining Admixtures

The contractor is responsible for verifying the compatibility of all chemical admixtures and the air-entraining admixture. If admixtures are from more than one manufacturer, run a trial batch prior to concrete placement. Provide test results for slump, air-entrainment and seven-day compression for two (2) cylinders. Actual dosage for Air-Entrainers may vary from those listed on the Qualified Products List as required by the mix design.

3. Lignin Type Admixtures

Lignin (or lignosulfonate) admixtures typically will cause the entrainment of additional air in air-entrained concrete. This type admixture does not generally entrain air by itself, but makes other air-entraining materials much more efficient. Thus, a change in dosage of either the chemical admixture or the air-entraining admixture may have a more significant effect on the air content than normally expected. It is the contractor's responsibility to be sure the specific admixture proposed for use is compatible with his operations so that excessive air content in the concrete is not developed. Most lignosulfonate type water-reducers will provide a moderate retardation if used at higher dosage rates.

4. High-Range Water-Reducers

Type F and G high range water-reducing (HRWR) admixtures (frequently called "superplasticizers") are capable of greater water reduction and greater strength gain than regular Type A water-reducers, or can provide substantial increase in slump while maintaining a cohesive concrete without loss of strength. Type G admixtures will also provide retardation of setting similar to Type D admixtures. Problems with this type of admixture include the following: (a) Loss of slump is frequently much more rapid than with plain concrete or when other admixtures are used, especially for older formulations of superplasticizers; (b) Effectiveness depends on the chemistry of the Portland cement, and the cements generally available in Michigan do not have the most favorable chemistry; (c) The air-void system may be adversely affected. Type F and G admixtures are to be used only according to the provisions of the Standard Specifications.

5. Admixtures Containing Chlorides

Some Type A and D admixtures may contain chlorides, as noted in the above listing. Section 903.03 of the Standard Specifications permits the use of these admixtures, except they are prohibited in concrete for bridge superstructure, prestressed concrete, and concrete containing galvanized steel or aluminum.

(End of Admixture Notes)

QUALIFIED PRODUCTS LIST (QPL)

Spec. # and Material Name	Product Name		Manufacturers or Suppliers
905.03C Bar Reinforcement (Epoxy Coating) NOTE: Epoxy Coating Material Only. The Coating Applicator and Bar Manufacturer can be Approved Manufacturers, see Approved Manufacturers List.	<u>Epoxy Coating Product Name</u> Scotchkote 413 Resicoat RB-600 Nap-Gard 7-2719 Nap-Gard 7-2750 Greenbar 720A009	<u>Repair Coating Product Name</u> Scotchkote 413/215 PC Thermal Chem BarPatch #803 Nap-Gard 7-1870 or 7-2727 Nap-Gard 7-1868 Greenbar 920-G-966/ 920-C-966	3M Akzo Nobel Powder Coatings Axalta Coating Systems (Dupont Powder Coating) Axalta Coating Systems (Dupont Powder Coating) Valspar
906.09 Shear Developers (Studs)	<u>Markings</u> B C N X TW		Bluearc Stud Welding Cox Industries Nelson Stud Welding Co. (Div. of Gregory Ind.) Stud Welding Associates, Inc. Tru-Weld from Tru-Fit Products Corp.
908.05 Alternate Adjustable Gray Iron Castings For Manholes, Drainage Structures, and Covers	Final Cut Municipal Casting		Site Solutions, Inc., Gibraltar, MI
909.01 Adjusting Rings for Manholes and Drainage Structures (Alternatives, Recycled Rubber)	Flex-O-Ring Pivoted Turnbuckle Pro-Ring Infra-Riser Ladtech HDPE HDPE Recycled Manhole Adjusting Ring UGT Grade Ring Whirlygig		American Highway Products American Highway Products Cretex Specialty Products East Jordan Iron Works Ladtech, Inc. P. Spear Company Underground Technologies Whirlygig, Inc.

QUALIFIED PRODUCTS LIST (QPL)				
Spec. #	Pipe Material	Joint System	Pipe Diameter (Inches)	Approved Manufacturers
909.03 Watertight Joint Systems	Corrugated Polyethylene Pipe	Gasket Self Locking Bell/Spigot Hancor Blue Seal Single Compression Gasket	12 thru 60	ADS - Hancor
	Corrugated Polyethylene Pipe	Gasket Self Locking Bell/Spigot Hancor SURE-LOK Single Compression Gasket	12 thru 60	ADS - Hancor
	Dual-Wall Polypropylene	Bell and Spigot	12 thru 60	ADS - Hancor
	Corrugated Polyethylene Pipe	Bell/Spigot N-12WT Pro-Link Ultra WT Rubber Gasket	12 thru 60	ADS - Hancor
	Corrugated Polyethylene Pipe	Compression Gasket	12 thru 24	Baughman Tile Co.
	Corrugated Polyethylene Pipe	Haviland Smooth-Flow WT Compression Gasket	12 thru 60	Haviland Drainage Products Co.
	Corrugated Polyethylene Pipe	MaxSeal Gasket	12 thru 60	JM Eagle
	Corrugated Polyethylene Pipe	Hamilton Kent In-Line Bell Spring Seal	12 thru 15	Lane Enterprises
	Corrugated Polyethylene Pipe	SpringSeal Gasket	18 thru 24	Lane Enterprises
	Corrugated Polyethylene Pipe	Gold Flow Corrugated SLCP Compression Gasket	12 thru 36	Prinsco, Inc.
	Corrugated Polyethylene Pipe	Storm Seal Gasketed Bell/Spigot Rubber or Polyisoprene Gasket	12 thru 48	Quality Culvert, Inc., Wausau
	Corrugated Polyethylene Pipe	Bell/Spigot Polyisoprene Gaskets	12 thru 60	Southeast Culvert, Inc.
	Corrugated Polyethylene Pipe	Vertex Single Compression Gasket	12 thru 60	Southeast Culvert, Inc.
	Corrugated Polyvinyl Chloride Pipe (PVC)	Integrally Formed Elastomeric Gasket, Bell/Spigot	12 thru 36	Contech Engineered Solutions, LLC
	Concrete Pipe	Single Offset Self-Lubricating Gasket, Tylox - Hamilton Kent	12 thru 24	Co-Pipe Products Inc.
	Concrete Pipe	Compression Gasket Press Seal Gasket Co.	12 thru 24	Independent Concrete Pipe Co.
	Concrete Pipe	Compression Gasket	12 thru 24	National Concrete Prod.
	Concrete Pipe	Press Seal Gasket Corp.-4G, 4F; Hamilton Kent-Tylox Super Seal; Universal Polymer & Rubber-Profile Gasket	12 thru 33	Northern Concrete Pipe, Inc.
	Concrete Pipe	Press Seal Gasket Corp.-4G, 4F, O-ring, M875;	36 thru 72	Northern Concrete Pipe, Inc.
	Concrete Pipe	Hamilton Kent-Tylox Super SeaPress Seal Gasket Corp.O-ring, M875;	78 thru 144	Northern Concrete Pipe, Inc.
	Concrete Pipe	Compression Gasket, Profile Cross Section, O-Ring Cross Section, Pipe Gasket & Supply	12 thru 24	Upper Peninsula Concrete Pipe Co.
	Concrete Pipe	Profile X-Section Gasket, Hamilton Kent	12 thru 36	County Materials Corp.
(Continued)	Corrugated Metal Pipe	H12 Hugger Band with Single Bolt Bar and Strap with Compression Gasket	12 thru 24	Contech Engineered Solutions, LLC

QUALIFIED PRODUCTS LIST (QPL)				
Spec. #	Pipe Material	Joint System	Pipe Diameter (Inches)	Approved Manufacturers
909.03 Watertight Joint Systems	Corrugated Metal Pipe	Gasket-Bidco Wrap 12 x 3/8 Band	12 thru 18 Band 7 24 thru 30 Band 12 & larger Band 21	Jensen Bridge & Supply Co.
	Corrugated Metal Pipe	12 Bolted Band Angle with Compression Gasket Bidco Wrap 6 x 1/8 Band	12 thru 72	Cadillac Culvert
	Corrugated Metal Pipe	Bolted Corrugated Steel Band with Compression Gasket Ensolute IV Series	12 thru 24	St. Regis Culvert Inc.

QUALIFIED PRODUCTS LIST (QPL)

Spec. # and Material Name	Product Name	Manufacturers or Suppliers
909.05A1 Polymer Coated Corrugated Steel Pipe	Trenchcoat Protective Film	Dow Chemical Company
909.06 Class B Bury Plastic Pipe Smooth Lined Corrugated Plastic Pipe (CPE/HDPE); Corrugated Polyvinyl Chloride Pipe (CPV)	Size: 12 – 24 inch (CPE/HDPE) Size: 12 – 24 inch Blue Seal (CPE/HDPE) Size: 12 – 24 inch A-2000 PVC (CPV) Size: 12 – 24 inch HDPE Corrugated Class B (CPE/HDPE) Size: 12 – 24 inch Lane HDPE (CPE/HDPE) Size: 12 – 24 inch GoldFlo WT HDPE (CPE/HDPE)	Advanced Drainage Systems (ADS) Advanced Drainage Systems (ADS) - Hancor Contech Engineered Solutions, LLC Lane Enterprises Lane Enterprises Prinsco, Inc.
909.10 Drainage Marker Post	See Delineator Posts 2. Plastic Material, QPL 919.03D	
910.04 Silt Fence (Geotextile Fabric only)	Belton 940 Geoturf S1200 Geoturf S1240 Geoturf S1240OR Geoturf S1400 Kintex SF-3 GTF - 180 Propex 2130 SKAPS W100 TerraTex SC Willacoochee, Style 1210	Belton Industries, Inc., Norcross, SC CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI CSI Geoturf, Inc., Highland, MI Geoproducts, Inc., Birmingham, MI LinQ Industrial Fabrics Propex Fabrics, Inc., Austell, GA Skaps Industries, Athens, GA Hanes Geo Components, Winston-Salem, NC Willacoochee Industrial Fabrics, Inc., Willacoochee, GA
912.08Q Recycled Plastic Or Rubber Guardrail Offset Blocks	<u>Model</u> Type B/BD Dura-Bull Bloclout SPI #4 Diamond Block Eco-Block Mondo Block #NREC P-Block Thrie Beam Block EDEN Block Polylumber PL6814R King Block Type T/TD Mondo Block Steel Post Model #NREC Thrie Beam Block EDEN Block Polylumber King Size King Block	Creative Building Products Diamond Roadway Products Eco-Composites LLC Mondo Polymer Technologies Monroeville Industrial Moldings Monroeville Industrial Moldings Project Back to EDEN Ramco International Trinity Industries, Inc. Mondo Polymer Technologies Monroeville Industrial Moldings Project Back to EDEN Ramco International Trinity Industries, Inc.
914.03B Recycled Rubber Joint Filler	Reflex	The J D Russell Company

QUALIFIED PRODUCTS LIST (QPL)		
Spec. # and Material Name	Product Name	Manufacturers or Suppliers
914.06 Epoxy Resin Adhesive & Temporary Seal (Crack Injection)	Crackbond LR321 Crackbond SLV302 Akabond 817 Akabond 818 Akabond 819 MBT P&R Concsresive 1380 MBT P&R Concsresive 1360 BHS-1617 BHS-1618 BHS-1619 Arndite 8560 True Grip 150 NIP124LV CI 060 Dynapoxy EP-450 E Bond 550 Sikadur 35, Hi-Mod LV Sikadur 52 Pro Poxy 50 Super LV	Adhesives Technology Corp. Adhesives Technology Corp. Axson, Eaton Rapids, MI (formerly Akemi Corp.) Axson, Eaton Rapids, MI (formerly Akemi Corp.) Axson, Eaton Rapids, MI (formerly Akemi Corp.) BASF Construction Chemical, Shakopee, MN BASF Construction Chemical, Shakopee, MN Blackhawk Sales Co, Inc., Rock Island, IL Blackhawk Sales Co, Inc., Rock Island, IL Blackhawk Sales Co, Inc., Rock Island, IL Ciba Corporation, East Lansing, MI J. Dedoes, Inc., Milford, MI Epoxy Unlimited, Harrison Twp, MI Hilti Inc., Columbus, OH Pecora Corporation Ridgemoor Supply, Kentwood, MI Sika Corporation, Lyndhurst, NJ Sika Corporation, Lyndhurst, NJ Unitex, Kansas City, MO
914.07A Transverse Pavement Joint 1. Dowel Bar Coating (Epoxy) 2. Bond Release	See Reinforcement Bar Coating, QPL 905.03C	
	Bond Release Agent - Tectyl 506 BCG Protec 6116 DS MA	Tectyl Ashland Bradley Coatings Group
914.08 Transverse Pavement Joint, <u>Deformed</u> Dowel Bar Coating	See Reinforcement Bar Coating, QPL 905.03C	
914.09 Straight & Bent Tie Bars for Longitudinal Pavement Joints (Lane Ties), Coating	See Reinforcement Bar Coating, QPL 905.03C	
914.11 Preformed Waterproofing Membrane NOTE: Not to be used on Treated Wood Materials.	Carlisle CCW 711-Highway and Bridge Membrane Geotac Waterproofing Membrane Geotac Polyester HS Protecto Wrap M400 AR Sealtight Mel-Dek	Carlisle Coatings and Waterproofing Crafco Inc. Crafco Inc. Protecto Wrap Co. W.R. Meadows, Inc.

QUALIFIED PRODUCTS LIST (QPL)					
Spec. # and Material Name	Product Name			Manufacturers or Suppliers	
915 Coating Systems for Steel Structures, Hanger Assemblies and End Diaphragms NOTES: *Indicates product can be used on faying surfaces of slip critical bolted connections which require Class “B”. +Information from the Slip Coefficient and Creep Resistance Test Certificate is given for use with primed bolted connections to meet Class “B” requirements. #Alternative primer can only be used on faying surfaces of slip critical bolted connections which require Class “B”.	*Carbozinc 859 +100 hrs min cure, 6 mils max DFT, 10 oz/gal max thin Carboguard 893 Carbothane 133 VOC #Carbozinc 11 HS Inorganic Zinc Primer +18 hrs min cure, 6 mils max DFT, 15 oz/gal max thin			<u>Coats</u> 1 st 2 nd 3 rd	Carboline Company Approved for use on projects let prior to 05/31/19
	*Carbozinc 859 +100 hrs min cure, 6 mils max DFT, 10 oz/gal max thin Carboguard 893 Carbothane 133 LH #Carbozinc 11 HS Inorganic Zinc Primer +18 hrs min cure, 6 mils max DFT, 15 oz/gal max thin			1 st 2 nd 3 rd	Carboline Company Approved for use on projects let prior to 06/30/17
	Interzinc 52 Intergard 475 HS Interthane 990HS #Interzinc® 22 Inorganic Zinc-Rich Silicate +24 hrs min cure, 5 mils max DFT, No thinner Allowed			1 st 2 nd 3 rd	International Protective Coatings Approved for use on projects let prior to 12/04/16
	*Amercoat 68HS +168 hrs min cure, 3 mils max DFT, 4 oz/gal max thin Amercoat 399 Amercoat 450H #Dimecote 9VOC Zinc-Rich Primer +24 hrs min cure, 4 mils max DFT, 7 oz/gal max thin			1 st 2 nd 3 rd	PPG Industries Approved for use on projects let prior to 10/30/16
	*Zinc Clad III HS +168 hrs min cure, 5 mils max DFT, 12 oz/gal max thin Macropoxy 646 Acrolon 218 HS #Corothane I GalvaPac One Pack Zinc Primer +24 hrs min cure, 4 mils max DFT, 0 oz/gal max thin			1 st 2 nd 3 rd	Sherwin-Williams Approved for use on projects let prior to 07/31/15
917.12 Seed Varieties Varieties of Seed on QPL Date of Testing Not to Exceed One Year Approved MDOT seed mixtures, see Table 917-1 in the Spec Book. For Approved Manufacturers of Seed Mixtures, see 917.12 in Approved Manufacturers section. *Species	<u>*Kentucky Blue Grass</u> Arc Baron Bristol Cannon Diva Guinness Midnight Nassau NuBlue NuBlue Plus Parade Raven RugbyII Touchdown Wildwood	<u>*Perennial Ryegrass</u> Advent Accent II Charger II Fiesta 4 Manhattan 5 Palmer III Pennant III Prelude III Prelude IV Quickstart II SR 4220 SR 4420	<u>*Hard Fescue</u> Aurora II Aurora Gold Matterhorn Nordic Reliant II Reliant IV Rescue Rescue 911 Scaldis II Spartan II SR 3100 SR 3150	<u>*Creeping Red Fescue</u> Cindy Lou Dawson Epic Hector Seabreeze GT Sea Link Shademaster II SR 5210	<u>*Fults Salt Grass</u> Fults Fults II Salty

QUALIFIED PRODUCTS LIST (QPL)

Spec. # and Material Name	Product Name	Manufacturers or Suppliers
917.15B1 Turf Mulch Blankets, High Velocity Mulch Blankets (Two Sided Net)	AEC Premier Straw Highway Double Net Curlex II Contech High Velocity ERO-MAT ECS-2 Mulch Blanket Enviroscape HV Straw Mulch Blanket S2000 ECB EX32 ECB S32 ETRS-2 RD S2 Erosion Control Blanket WS072B ECS-2D Erosion Control Blanket DS-150 Erosion King High Velocity Double Net Excel SS-2 (Regular) WinterStraw HVW	American Excelsior Co. American Excelsior Co. Contech Engineered Solutions, LLC East Coast Erosion Control Blankets Enviroscape ECM ErosionControlBlanket ErosionControlBlanket Erosion Tech S.I. Geosolutions / Land Green Fix America Hanes Geo Components North American Green Rhino Seed & Landscape Supply Western Excelsior Corp. Winters Excelsior Company
917.15B2 Turf Mulch Blankets, Mulch Blankets (Single Sided Net)	AEC Premier Straw Highway Single Net Curlex 1-CL Curlex I Contech ERO-MAT Futerra Mulch Blanket ECS-1 Mulch Blanket Enviroscape Straw Mulch Blanket S1000 ECB EX31 ECB S31 ETRS-1 RD WS05 Erosion Control Blanket DS-75 Xcel Excelior Erosion Control Blankets Erosion King Mulch Blanket S1 Erosion Control Blanket ERO-MAT V75S Excel SR-1 (Regular) WinterStraw SNW	American Excelsior Co. American Excelsior Co. American Excelsior Co. Contech Engineered Solutions, LLC Profile Products, LLC East Coast Erosion Control Blankets Enviroscape ECM ErosionControlBlanket ErosionControlBlanket Erosion Tech Green Fix America North American Green PPS Packaging Co. Rhino Seed & Landscape Supply Synthetic Ind. / BonTerra America Verdyol-Canada Western Excelsior Corp. Winters Excelsior Company
917.15C Mulch Binders (Tackifiers)	<u>1. Latex Base Adhesive</u> BUTOFAN NS 268 EZ Straw Seeding Mulch w/Tack <u>2. Paperfiber Mulch Binders</u> Applegate Mulch Cellin Fiber Mulch Geoturf Hydro Mulch Geoturf Hydro Mulch Plus Geopro Basis Plus Hydro Green Hydroseeding Mulch Hydro Green Hydroseeding Mulch Rhino Greenstar Rhino Greenstar Plus <u>3. Excelsior/Guar Gum Base Adhesive</u> Excel Fiber Mulch ConWed 2000 <u>4. Guar Gum Base Adhesive</u> Second Nature Tacpac GTX Geotack EcoTak-OP5 Finn A500 Hydro-Stik Landtack Lawn Tack <u>5. Hydrophilic Polymers</u> Agro Tack MP Exact-Tac (E-T) Geotack II Con-Tack A/T Eco-Tak-SAT 11 RMB Plus	BASF Corp. Rhino Seed & Turf Supply Applegate Insulation System Cellin Manufacturing, Inc. CSI Geoturf, Inc. CSI Geoturf, Inc. Hanes Geo Components Nu-Wool, Inc. Nu-Wool, Inc. Rhino Seed & Landscape Supply Rhino Seed & Landscape Supply American Excelsior Co. Profile Products, LLC Central Fiber Corp. CSI Geoturf, Inc. Eastern Products, Inc. Finn Corporation Midwest Land Supply, Inc. Rhino Seed & Landscape Supply Agro Diversified Industries American Excelsior Co. CSI Geoturf, Inc. Profile Products, LLC Eastern Products, Inc. Reinco Mulch Binder Corp.

QUALIFIED PRODUCTS LIST (QPL)							
Spec. # and Material Name		Product Name			Manufacturers or Suppliers		
918.06D Light Weight Composite Handholes		Armorcast Box and Cover Assembly A6001640TAPCX12 PHA Series Hand Holes Quazite Box PG1730BA12 & Cover PG1730HA Polymer Concrete Pull Box & Cover FCA 173012 Synertech Underground Enclosure S1730B12FA & Cover S1730HBB0A			Arborcast Products Company Highline Products, Inc. Hubbell NewBasis Synertech Molded Products		
		11 Inch Bolt Circle TB1-17 Modified TB2-17 13 Inch Bolt Circle TB1-17 TB1-17 Modified			Akron Foundry Co.		
					Akron Foundry Co.		
919.02B1 Reflective Sheeting		Type III Series 3870	Type IV Series 3930	Type IX Series 3990	Type XI Series 4000	3M	
		--	T-6500 Series	T-9500 Series	T-11500 Series	Avery Dennison	
		Nikkalite Ultralite Grade II	--	--	--	Nippon Carbide	
919.03D Delineator Post 2. Plastic, Flexible		Survivor Delineator Post Flexi-Guide 400 Series Flexi-Guide 500 Series Flexstake HD 600 Series Flexstake SM 700 Series Flexstake TM 650 Series Flexstake TM 750 Series EZ Drive 2 Marker SH248GP3 TSM Series Flexible Delineator Post			Carsonite PEXCO, Davidson Traffic Control Products Flexstake Flexstake Flexstake Flexstake Flexstake Safe-Hit New Direction Mfg, Inc.	Distributor Carrier & Gable, Inc.	
921.05A Steel Clamps for Traffic Signal Strain Poles		Strain Clamps			Utility Metals		
922.06A Traffic Maintenance and Control Temporary Pavement Markings Type R and NR Tape Paint - See Specific Paint Type in QPL 811.03D *WR Tape is wet-night retro reflective		<u>White (Type)</u> 5160 (NR) 710 (WR) 620 (R) ATM 200 (R) Deltaline TWR (WR) Series 100 (R) Flex-O-Line 200 (NR) Prismoline (R) RW-140 (R) Aztec 100-W (NR) Aztec 102 (R) Director-2 (R) Visaline CG (NR)		<u>Yellow (Type)</u> 5161 (NR) 711 (WR) 621 (R) ATM 200 (R) Deltaline TWR (WR) Series 100 (R) Flex-O-Line 200 (NR) Prismoline (R) RY-140 (R) 100-Y (NR) 390 (R) Director-2 (R) Visaline CG (NR)		3M 3M 3M ATM Brite-line Technologies, LLC Brite-line Technologies, LLC FOL Tape, LLC Linear Dynamics/ Carrier & Gable Market Manager Rd Tape, Trelleborg Ind. AB Tape4, LLC Tape4, LLC Volare/ Swarco Industries, Inc. Volare/ Swarco Industries, Inc.	
922.06B Temp. Raised Pavement Markers		Type 1: Model 932 Chip Seal Marker TRPM Chip Seal Marker			Apex Universal, Inc. Bunzl Extrusions/Davidson Traffic Control Prod		
		Type 2: Model 932 Overlay Marker Temporary Overlay Marker			Apex Universal, Inc. Bunzl Extrusions/Davidson Traffic Control Prod		
		Type 3: Stimsonite Model 88			Stimsonite Corporation		